

PATENT APPLICATION

Docket No. 1113KH-002

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN that I, **LOUISA SHAEFER**, residing in the city of San Antonio, Texas, a citizen of the United States of America, have invented new and useful improvements in an

IMPROVED NIGHT LIGHT

of which the following is a specification:

1                                   **CROSS REFERENCE TO RELATED APPLICATIONS**

2           This application claims priority from US Provisional Application Number 60/070,248,  
3   filed December 31, 1997, which is hereby incorporated by reference hereinto in its entirety.

4                                   **BACKGROUND OF THE INVENTION**

5   1.     **Field of the Invention**

6           The present invention relates generally to lighting devices, and more particularly to night  
7   lights having adjustable controls.

8   2.     **Description of the Prior Art**

9           It is common to provide one or more night lights in various rooms of the home. The  
10   lights are plugged in to any convenient outlet, and provide a relatively small amount of light  
11   suitable for finding one's way when other light sources are off. This is very useful for providing  
12   enough light to move around the house, without being so bright as to interfere with sleeping.

13          Until now, night lights generally available have a fixed brightness, and must be switched  
14   on and off by hand. Some designs have proposed various more complicated controls, but have  
15   not met the requirements and desires of those needing more flexibility in a night light.

16          Also, night lights have previously been limited to indoor use. In certain instances, it  
17   would be desirable to provide a night light which could be used outdoors to provide limited  
18   lighting without the necessity for installing a complex permanent fixture. An outdoor night light  
19   could be used temporarily for any of a wide variety of purposes, or could be left in place to  
20   illuminate, for example, a door to aid in night entry into the home.

1           Whether for indoor or outdoor use, it would be desirable to provide a night light fixture  
2   which is inexpensive, while providing lighting levels and control functions beyond those available  
3   on current products.

63852.1

## SUMMARY OF THE INVENTION

In accordance with the present invention, a night light design is provided which allows for improved functionality over those heretofore available. The basic design is flexible enough to be adapted for either indoor or outdoor use, and for various brightness levels. Particularly for outdoor use, bulbs of up to 15 watts can be used, providing an increased illumination level. All designs preferably include a light sensing element and a control circuit, wherein the light turns itself on when the ambient lighting levels fall low enough. Also, several preferred embodiments include a variable control, wherein the brightness of the night light can be continuously varied between very dim and full brightness.

## BRIEF DESCRIPTION OF THE DRAWINGS

The invention, as well as preferred modes of use, further objectives and advantages thereof, will best be understood by reference to the following detailed descriptions of illustrative embodiments when read in conjunction with the accompanying drawings, wherein:

**Figure 1** illustrates a night light according to the present invention;

**Figure 2** illustrates a second embodiment of a night light according to the present invention;

**Figure 3** depicts a third embodiment of a night light according to the present invention;

**Figure 4** depicts a fourth embodiment of a night light according to the present invention;

**Figure 5A** shows another embodiment of a night light according to the present invention;

**Figure 5B** illustrates a side view of the night light shown in **Figure 5A**;

**Figure 5C** illustrates a preferred cover plate design for the night light shown in **Figure 5A**;

**Figure 6A** depicts yet another embodiment of a night light according to the present invention;

**Figure 6B** is a front view of the night light shown in **Figure 6A**;

1        **Figure 7** is a schematic diagram of a preferred control circuit for use with various night  
2 light designs;

3        **Figure 8A** is a side view illustrating an alternative embodiment of the night light shown  
4 in **Figure 6A**;

5        **Figure 8B** is a front view of the embodiment shown in **Figure 8A**;

6        **Figure 9** is an alternative control circuit for use with various night light designs;

7        **Figure 10A** depicts an outdoor embodiment of a night light according to the present  
8 invention;

9        **Figure 10B** is a front view of the night light shown in **Figure 10A**;

10       **Figure 11A** illustrates construction details of the embodiment shown in **Figure 5A**;

11       **Figure 11B** shows additional details of the embodiment shown in **Figure 5A**;

12       **Figure 12A** is a perspective view of a final illustrative preferred embodiment of the  
13 invention;

14       **Figure 12B** is a top view of the embodiment shown in **Figure 12A**;

15       **Figure 12C** is a side view of the embodiment shown in **Figure 12A**; and

16       **Figure 12D** is a top and partially broken away view of the embodiment shown in **Figure**  
17 **12A**.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Several features of the invention are described below in various embodiments and combinations. It will be appreciated by those skilled in the art that various additional combinations of features may be implemented while utilizing the teachings of the present invention.

**Figure 1** illustrates night light **100** according to the present invention. Forming the central portion of night light **100** is base **112**. Base **112** provides the central support structure for night light **100**, and contains the majority of the electrical components of night light **100**. Located on the back portion of base **112** is either a two or three prong plug which is designed to be received in any common electrical outlet.

On the front portion of base **112** is dimming knob **108**. Dimming knob **108** is connected to a dimming switch internal to base **112**. This dimming switch controls the brightness of light bulb **104**, and can switch light bulb **104** on or off. In one embodiment of the present invention, the dimming switch is a rheostat type device, but, the dimming switch could also be a solid-state, semiconductor device. The dimming switch can be in one of three states: the off state, the dimming state, and the on state. The dimming switch can be put into the off state by turning dimming knob **108** fully clockwise. When a user turns dimming knob **108** from the dimming state to the off state, and vice versa, they will feel dimming knob **108** "click." While the dimming switch is in the off state, light bulb **104** will never switch on.

In a similar manner, the dimming switch can be switched to the on state by turning dimming knob **108** fully counterclockwise. The user will feel dimming knob **108** click when it is turned from the dimming state to the on state, and vice versa. When the dimming switch is in the on state, light bulb **104** will shine continuously.

1 The dimming switch is put into the dimming state by turning dimming knob 108 slightly  
2 counterclockwise from the off state, or slightly clockwise from the on state. When light bulb 104  
3 is switched on by sensors 110 (as will be described below) and the dimming switch is in the  
4 dimming state, the dimming switch will control the brightness of light bulb 104. To make light  
5 bulb 104 appear dim, dimming knob 108 is turned to the far clockwise position of the dimming  
6 state. To make light bulb 104 appear bright, dimming knob 108 is turned to the far  
7 counterclockwise position of the dimming state.

8 When the dimming switch is in the dimming state, light bulb 104 will be switched on by  
9 sensors 110. Sensors 110 are comprised of either an ambient light sensor, a motion sensor, or  
10 both. If night light 100 contains an ambient light sensor, light bulb 104 will be switched on  
11 when the ambient light around night light 100 decreases to a predetermined level. Generally, this  
12 level will be at the point where persons begin to find it difficult to make out objects around them.  
13 If night light 100 contains a motion sensor, light bulb 104 will be switched on when the motion  
14 sensor detects movement in the vicinity of night light 100. If night light 100 includes both a  
15 motion and an ambient light sensor, light bulb 104 will be switched on during low light levels  
16 by the ambient light sensor and will be switched on by the motion sensor at other times when  
17 motion is detected around night light 100. If light bulb 104 is turned on by the motion sensor,  
18 the light will stay on for a predetermined period of time and then will switch off. Either the  
19 motion sensor or the ambient light sensor, or both, can have a variable control (not shown) to set  
20 the sensitivity to a desired level. In the preferred embodiment, sensors 110 control light bulb 104  
21 only when the dimming switch is in the dimming state. If the dimming switch is in the off state,  
22 sensors 110 will have no effect on light bulb 104. Likewise, if the dimming switch is in the on  
23 state, sensors 110 will again have no effect on light bulb 104.

24 Covering light bulb 104 is textured cover plate 102. Textured cover plate 102 can be  
25 constructed of many materials, including both plastic and glass. Textured cover plate 102 both  
26 protects light bulb 104 from being broken and prevents objects from inadvertently coming in



1 contact with the hot bulb. Textured cover plate 102 can also diffuse the light of light bulb 104,  
2 resulting in a "softer" light emanating from night light 100. In one embodiment of the present  
3 invention, light bulb 104 is a 15 Watt bulb.

4 Night light 100 can be designed to be used both indoors and outdoors. In order to be  
5 suitable for use outdoors, water and dirt must be prevented from entering base 112, where they  
6 could damage or otherwise render inoperable the electronics. Seal 106 is used to prevent water  
7 from entering where the light socket and base 112 join. Likewise, there are other seals behind  
8 dimming knob 108. The slits in base 112, which allow sensors 110 to monitor the outside world,  
9 have been designed to keep the intrusion of water and dirt into base 112 to a minimum. These  
10 weatherproofing design features allow night light 100 to be used outdoors, where many other  
11 night lights cannot.

12 **Figure 2** illustrates a second embodiment of a night light according to the present  
13 invention. Night light 200 is similar to night light 100, with some differences which will be  
14 described below. Night light 200 contains 2, 7 to 7 1/2 Watt light bulbs, light bulb 204 and light  
15 bulb 205. Whether a single light bulb or both light bulbs are illuminated when the dimming  
16 switch is in any particular state depends upon the setting of high-low switch 214. When high-low  
17 switch 214 is in the low position, only light bulb 204 can be illuminated. As with night light  
18 100, the illumination of light bulb 204 will depend upon the state of the dimming switch. When  
19 high-low switch 214 is in the high position, both light bulb 204 and light bulb 205 can be  
20 illuminated, depending upon the setting of the dimming switch.

21 Whereas the dimming switch in night light 100 was controlled by dimming knob 108 on  
22 the front portion of base 112, the dimming switch of night light 200 is contained within base 212.  
23 The dimming switch used with night light 200 is rotated by turning cover plate 202. This type  
24 of operation eliminates the opening in base 212 created by connecting the dimming knob to the

1 dimming switch. This feature makes night light 200 more resistant to the effects of water and  
2 dirt.

3 **Figure 3** illustrates a third embodiment of a night light according to the present invention.  
4 Night light 300 is similar to night light 100, shown in **Figure 1**, with the exception that sensor  
5 310 is mounted flush with base 312. As noted above, night light 100 contains slits in its base  
6 to allow sensors 110 to view the external surroundings. In night light 300, sensor 310 is mounted  
7 flush with and is sealed against base 312. This provides additional protection from the intrusion  
8 of water and dirt into the inner portions of base 312. As shown in **Figure 3**, sensor 310 is either  
9 an ambient light sensor or a motion sensor.

10 **Figure 4** illustrates a fourth embodiment of a night light according to the present  
11 invention. Night light 400 is similar to the one shown and described in **Figure 1**, with the  
12 exception of sliding dimmer switch 408 and sensor 410. Sensor 410 is similar to the sensor  
13 contained within night light 300, shown in **Figure 3**. Sliding dimmer switch 408 is used in place  
14 of dimmer knob 108 and the associated dimming switch. Like the dimming switch used in night  
15 light 100, sliding dimmer switch 408 can be in one of three states. However, instead of rotating  
16 about a central axis, sliding dimmer switch 408 moves vertically with respect to base 412. When  
17 sliding dimmer switch 408 is depressed fully downward, night light 400 will be put into the off  
18 state and will be turned off. In a similar manner, when sliding dimmer switch 408 is positioned  
19 to the top of its range of travel, night light 400 will be in the on state. When sliding dimmer  
20 switch 408 is somewhere between the on state and off state, it will be in the dimming state and  
21 will function like the dimming switch in night light 100.

22 **Figure 5A** shows another embodiment of a night light according to the present invention.  
23 Instead of having a cover plate located above a base portion, cover plate 506 of night light 500  
24 is located in front of and completely surrounds base 501. Thus, when night light 500 is plugged  
25 into a socket, all that is visible is cover plate 506.

1 Although the arrangement of base 501 and cover plate 506 is different than the  
2 corresponding arrangement of night light 100, night light 500 functions in a manner similar to  
3 that of night light 100. The activation of light bulb 502 is controlled by rotating cover plate 506  
4 as described in the discussion of night light 200. Also controlling the activation of light bulb 502  
5 are sensors 504. **Figure 5B** illustrates a side view of night light 500. **Figure 5B** shows the  
6 location of electrical plug 508. Because the cover plate 506 is rotatably attached to the base 501,  
7 no separate control is needed. This is similar to the dimming function of the embodiment  
8 described in **Figure 2**. The design of **Figure 5** provides minimal size combined with enhanced  
9 aesthetics, while still allowing a dimmer function to be incorporated. **Figure 5C** illustrates a  
10 preferred cover plate design which is pleasing to view as well as functional.

11 The specific examples set forth above have illustrated several combinations of features,  
12 and it will be appreciated by those skilled in the art that other combinations of these and similar  
13 features can be used. For example, given the teachings contained in the above descriptions, it  
14 will be apparent that any design can incorporate a cover plate which is rotatable with respect to  
15 the base. This would allow any night light design to provide the dimmer function without the  
16 addition of an extra dimmer control. In a similar manner, ambient light and motion sensors may  
17 be included or deleted from any particular design as desired. The embodiment shown in **Figure**  
18 **1** describes one possible control function relating to setting the dimmer control to the ambient  
19 light or motion sensors, but it will be apparent to those skilled in the art that different control  
20 functions are possible. For example, a fully "on" position, which bypasses the sensor control  
21 functions could be eliminated. As another example, the motion sensor could be set to always turn  
22 the night light on to its full brightness, while the ambient light sensor would energize the night  
23 light at the lighting level set by the dimmer switch. Many other combinations of features can be  
24 utilized.

25 One preferred feature of the invention is that at least some models of the night light be  
26 suitable for outdoor use. Because this requires sealing the unit against dirt and weather, designs

1 intended for outdoor use may be simpler than those intended for indoor use. For example, an  
2 outdoor light of the style shown in **Figure 5B** could be provided with a simple on-off switch  
3 rather than a dimmer, and possibly combined with an ambient light sensor. With the device  
4 turned on, the night light would always on. When the switch is set in the off position, the  
5 ambient light sensor would turn the light on when the ambient light levels dropped below a  
6 preselected level. A third, completely off, switch position could be provided if desired. Other  
7 variations will become apparent to those skilled in the art. Several embodiments intended for  
8 outdoor use are described below in more detail.

9 Another useful feature of the embodiments described above is that at least some models  
10 provide for greater light output than is typically provided in night lights heretofore available.  
11 Incorporation of a bulb in the 15-20 watt range would provide a fairly high illumination level  
12 which is particularly useful outdoors. Because 7 watt bulbs are already generally available, some  
13 designs may include two or more bulbs in a single housing to obtain the desired illumination.

14 Some additional night light units will now be described. In large part, these units include  
15 various of the features set forth above. In some cases, additional features will be described, and  
16 those skilled in the art will understand the following descriptions insofar as they relate to the  
17 previous descriptions and features.

18 **Figure 6A** is a side view of yet another night light according to the present invention.  
19 **Figure 6B** is a front view of the same night light unit. The unit includes a housing 602 having  
20 a socket 604 for a bulb 606. Blades 608 project from the rear of the unit to connect it to a wall  
21 receptacle. A dimmer control 610 projects from the front of the housing 602. As seen in Figure  
22 6B, a photocell 614 is mounted immediately below the dimmer control 610, and is used to turn  
23 the light on in low ambient light conditions as previously described. Cover plate 612 covers the  
24 bulb 606, and is clear, frosted, or textured as desired to provide the appropriate light levels when  
25 the bulb 606 is on.

1 In order to prevent overheating of the unit, vents (not shown) are preferably provided in  
2 the top of the cover plate 612. Vents may also be provided in the sides of the cover plate 612  
3 near the bottom to provide improved airflow over the bulb 606. This allows heated air to rise  
4 from the bulb 606, keeping it significantly cooler than would be the case with no venting.  
5 Keeping the bulb 606 and cover plate 612 cooler contributes both to safety and to enhanced bulb  
6 life.

7 Figure 7 depicts a preferred control circuit for use with the embodiment of Figure 6. This  
8 same control circuit is suitable for use with the previously described embodiments, and with most  
9 of the following embodiments as will be described below. Control circuit 702 for a night light  
10 bulb 704 includes a triac 706 (or other solid state switch) as the primary control, in a manner  
11 well known to those skilled in the art. Resistors 708, 710 control current into the gate of the  
12 triac 706, with resistor 710 being variable to control the brightness setting of the night light.

13 Photocell 712 is used to vary the current into the control gate of triac 706, thereby  
14 controlling the brightness of bulb 704. The resistance of photocell 712 varies with the ambient  
15 light, decreasing with decreasing ambient light levels, and thus increasing the control gate current.  
16 Increasing the control gate current increases current flow through bulb 704 as is known in the art.  
17 Bypass resistor 716 functions to limit current flow through the photocell 712. For use with a 110  
18 volt supply and a bulb 704 of 7 - 15 watts, the following component values can be used: resistor  
19 716 has a resistance of 47K ohms, resistor 710 can be varied from 0 - 22K ohms, and resistor  
20 708 has a value of 30K ohms. The photocell can be any of a large number of generic photocells,  
21 such as the EG&G Optoelectronics Night Light Control (models VT800 or VT900). The triac  
22 can be any suitable device, such as the Piher 300K device, reference # 217. As will be  
23 appreciated by those skilled in the art, variations on the described control circuit, suitable for use  
24 with particular devices, will be suitable for use with the night light.

1        Figures 8A and 8B illustrate a variation on the embodiment of Figure 6. This  
2        embodiment is suitable for use outdoors. It includes a gasket 802 on the rear of the housing 804  
3        to seal the housing 804 to be weathertight. Cover plate 806 is also sealed to be weathertight.  
4        Alternatively, cover plate 806 can include vents as in the embodiment of Figure 6, and a gasket  
5        (not shown) around the base of the bulb 808 to seal the electronics from the weather.

6        As can be seen in Figure 8B, the outdoor light preferably has only a photocell sensor 810  
7        to turn the light on when ambient light drops. Normally, outdoors an on/off switch is not  
8        important, as the light is always wanted on when it is dark. The photocell 810 can be located  
9        behind a clear portion of the housing 804. Deleting the knob for the controller eliminates the  
10       difficulty of sealing around the shaft of the variable resistor, and lowers cost for the unit at the  
11       same time. The control circuit of Figure 7 can be used for this night light, with the variable  
12       resistor 710 shorted out.

13       An alternative circuit for use primarily with outdoor night lights is illustrated in **Figure**  
14       **9**. This circuit is turned on and off as a function of ambient light levels, and does not include  
15       a dimmer function. In the circuit of **Figure 9**, bulb 902 is turned on and off by triac 904.  
16       Photocell 906 is connected to the control gate of the triac 904, and turns the triac on when  
17       ambient light levels drop low enough. Capacitor 908 assists operation of photocell 906 as known  
18       in the art, and resistor 910 performs a current-limiting function in case the 902 burns out.

19       The control circuit in **Figure 9** is suitable for use with the outdoor night light of **Figures**  
20       **8A** and **8B**, but is less desirable for use with indoor lights because the dimming feature is not  
21       provided.

22       Outdoor night lights are also preferably provided with a ground-fault circuit interrupter  
23       (GFCI), which is connected to either the control circuit of **Figure 7** or the control circuit of  
24       **Figure 9** as known in the art. In order for a GFCI to work, of course, the night light must be

1 provided with a three-terminal grounded plug such as shown in **Figure 8A**. One GFCI device  
2 which is suitable for use in night lights of the present type is the LM1851N manufactured by  
3 National Semiconductor. Other GFCI units are available, and may be included in either control  
4 circuit as is known in the art.

5       Figures 10A and 10B depict another embodiment of the night light of the present  
6 invention which is intended for outdoor use. It is similar to the embodiment of Figures 8A and  
7 8B, except that it is designed for use with a 15 watt bulb, rather than the standard 7 watt bulb  
8 as is the case with Figures 8A and 8B.

9       Because the 15 watt bulb 1002 is larger and hotter, the cover plate 1004 is larger. As  
10 before, cover plate 1004 may include vents, with a gasket (not shown) around the base of the  
11 bulb 1002. Or, it may be unvented, with the cover plate 1004 completely weather sealed, such  
12 as by a gasket or O-ring 1010 around its base. Housing 1006 is extended rearwardly because of  
13 the larger cover plate 1004. A gasket 1008 is used to seal the rear portion of the housing 1006  
14 adjacent to the blades 1012, which are of the three prong grounded type as described with respect  
15 to Figure 8A. As before, the ground fault interrupter circuit is preferably added to the control  
16 circuit, as described with reference to Figures 7 and 9.

17       As before, this design preferably has no dimmer switch, but uses a photocell 1014 to turn  
18 the unit on when ambient light levels drop. A separate on/off switch may be provided, but is not  
19 shown in Figure 10B. Because the unit can simply be unplugged to turn it off, such a switch is  
20 generally not necessary or desired.

21       **Figures 11A and 11B** illustrate additional details of the night light unit previously  
22 described with respect to **Figures 5A, 5B and 5C**. **Figure 11A** shows the base portion of the  
23 night light with the cover plate 506 removed.

1 Referring to **Figure 11A**, a side view of the night light shows a dimmer knob 1102  
2 projecting from the housing 1104. This knob has teeth, or grooves, to engage corresponding teeth  
3 or grooves with the arcuate slot 1106 shown in **Figure 11B**. 11B is a view from the rear of the  
4 cover plate, showing the supporting ring structure and a projecting region 1108 which contains  
5 the arcuate slot 1106. As the cover plate is rotated, the ring 1110, and thus the projecting region  
6 1108, rotate with it. The engagement of teeth between the arcuate slot 1106 and the dimmer  
7 knob 1102 causes the dimmer knob 1102 to rotate, varying the resistance of the control circuit  
8 as shown in **Figure 7** and brightening and dimming the output of the night light. Other  
9 mechanical constructions for adjusting the value of a resistor by turning the cover plate 506 will  
10 become apparent to those skilled in the art.

11 A variation of an outdoor night light which can be more permanently mounted is shown  
12 in **Figures 12A, 12B, 12C, and 12D**. An alternative design for an outdoor night light which is  
13 simple and useful, but not so easily removable as the plug-in version previously described, is  
14 shown. In general, a night light of this embodiment is incorporated into a cover plate for a  
15 standard two-outlet electrical receptacle which is substituted in place of the normal cover plate  
16 used for outdoor receptacles.

17 **Figure 12A** is a perspective view showing the night light unit/outlet box covering of the  
18 present invention. When the standard, existing outlet box cover is removed, normally by the  
19 removal of single, central screw, the cover of **Figure 12A** is inserted in its place. The cover  
20 includes a cover portion 1202 similar to a standard outlet box cover. The unit includes a hinged  
21 door 1204 which is connected to the cover portion in the usual manner and covers an opening  
22 1206 in precisely the same manner as standard outdoor outlet box covers. In other words, the  
23 right-hand portion of the unit as shown in **Figure 12A** is a standard replacement for the outlet  
24 box cover already normally installed.



1 The left-hand portion of the unit, as shown in **Figure 12A**, is covered by a cover plate  
2 **1208**, which is made out of any suitable transparent material and functions as does the cover plate  
3 on any of the previously-described night lights. The cover plate **1208** is large enough to  
4 completely cover up one side of the cover portion **1202**.

5 This can be seen more clearly in **Figure 12B**, which is a top view of the unit, as installed,  
6 with the hinged door **1204** in the closed position. Screw hole **1210** is provided for attaching the  
7 cover portion **1202** to the underlying receptacle in the outlet box.

8 Referring to **Figure 12C**, the lighting unit is seen to have a standard three-prong blade  
9 set **1212** extending from beneath the cover plate **1208**. Blades **1212** are aligned to plug into one  
10 side of the underlying outlet, leaving the other side free to be exposed through the opening **1206**.  
11 Beneath the cover plate **1208**, and disposed on the cover portion **1202**, is a housing **1214** which  
12 contains the control circuitry for the night light. Bulb **1216** is screwed into socket **1218**, both  
13 of which are contained within the cover plate **1208** in much the manner of any other outdoor  
14 night light as previously described.

15 **Figure 12D** is another top view of the unit, with the cover plate **1208** removed, and the  
16 hinged door **1204** in the closed position. Shown in phantom are the underlying receptacles within  
17 the outlet box. As can be seen from viewing **Figures 12C** and **12D** together, the blades **1212**  
18 plug directly into the underlying receptacle. This allows the unit to be designed as simply a  
19 replacement outlet box cover, with no rewiring of any type needed.

20 The replacement outlet box cover is provided with necessary gaskets to seal both the cover  
21 plate **1208**, and the cover portion **1202** against the underlying surface so that the outlet box is  
22 also sealed. These sealing techniques are similar to those in wide use on outlet box cover plates.  
23 This design allows the night light to be replaced by any homeowner in less than two minutes with  
24 a single screwdriver, and requires no rewiring whatsoever. The resulting outlet, instead of having

1 two receptacles, now has a single, weatherproof receptacle and an attached night light. This night  
2 light is preferably the type which uses a photocell control, without the dimmer function, as  
3 described in connection with **Figure 9**.

4 As will be appreciated by those skilled in the art, the above described preferred  
5 embodiments illustrate several features of the present invention. A night light with a variable  
6 dimmer is flexible in use, allowing a relatively bright bulb to be controlled to a dimmer light  
7 output. If full light output is needed it is available; if less light is needed, that is easily obtained  
8 by controlling the dimmer. This easy control means that the user does not have to provide  
9 separate lights or replacement bulbs, which is inconvenient.

10 Also, several designs suitable for use as outdoor night lights have been illustrated.  
11 Standard night lights are not used outdoors because of their lack of protection against the  
12 elements. Proper sealing as described allows the benefits of a night light to be obtained out of  
13 doors. Because some of the designs are removable, the night lights may be placed and used as  
14 desired. If a relatively permanent light is desired, the alternative of Figure 12 can be installed  
15 by any homeowner in just a minute or 2 using no special tools. This type of installation provides  
16 a light source at an existing outlet, which is often located near a door. These locations are the  
17 ones most likely to be needed, to assist in finding of keys, etc., to enter the house at night.  
18 Additional benefits, such as being able to identify visitors at night, discouraging prowlers, and  
19 being able to view unfavorable weather conditions such as icy sidewalks, are also obtained. The  
20 relatively permanent installation prevents pilferage, while leaving one receptacle available for  
21 other use.

22 While the invention has been particularly shown and described with references to several  
23 preferred embodiments, it will be understood by those skilled in the art that various changes in  
24 form and detail may be made therein without departing from the spirit and scope of the invention.